

Claims

WHAT IS CLAIMED IS:

1. In a wireless network having a plurality of nodes configured to send and receive messages between each other, a method for determining whether a message sent from a sending node to a receiving node has been successfully transmitted, comprising:

the sending node transmitting an identifying command to the receiving node that describes the sent message;

the receiving node comparing the description of the sent message with a received message that the receiving node has received;

the receiving node responding to the sending node, said response indicating to the sending node the results of the comparison between the description of the sent message and the received message;

the sending node transmitting a portion of the sent message if the comparison between the received message and the description of the sent message indicates that the receiving node has not yet received the portion of the sent message.

2. The method of claim 1, wherein the receiving node identifies a size of the portion of the sent message that has not been received.

3. The method of claim 2, wherein the receiving node identifies a location of the portion of the message that has not been received.

4. The method of claim 1, wherein the received message has a size, and further wherein the receiving node identifies the size of the received message.

5. The method of claim 1, further including:
re-transmitting the sent message to the receiving node if a predetermined time elapses before the response is received by the sending node.

6. The method of claim 1, wherein the description of the sent message includes at least a name of the sent message and a size of the sent message.

7. The method of claim 6, wherein the description of the sent message further includes at least one of a time stamp, a checksum related to the sent message, and a destination address.

8. The method of claim 1, wherein the transmissions between the first node and the second node are accomplished over a frequency in the HF spectrum.

9. A method of determining if all portions of a message have been successfully transmitted from a first node in a single-channel, wireless HF communications network to a second node in the network, the method comprising:

sending information about the transmitted message to the second node, the information including at least a name of the transmitted message and a size of the transmitted message;

comparing the sent information to a received message that was received by the second node;

informing the first node of a portion of the transmitted message that was transmitted by the first node but not received by the second node;

transmitting to the second node said portion of the message that was transmitted by the first node but not received by the second node.

10. The method of claim 9, wherein the received message has a size, and wherein the comparing step includes comparing the size of the transmitted message with the size of the received message.

11. The method of claim 9, wherein the portion of the message that was transmitted but not received by the second node has a size, and further wherein the informing step includes informing the first node of the size of the portion of the message that was transmitted but not received by the second node.

12. The method of claim 11, wherein the portion of the message that was transmitted but not received by the second node is identifiable by a position in the transmitted message, and further wherein the informing step includes informing the first node of said position.

13. The method of claim 9, further including re-transmitting the transmitted message if a predetermined time elapses before the first node is informed of a portion of the transmitted message that not received by the second node.

14. The method of claim 9, wherein the information about the transmitted message that is sent to the second node further includes at least one of a time stamp, a checksum related to the sent message, and a destination address.

15. A single-channel wireless communications network, comprising:
a first node and a second node, the first node configured to send to the second node a message over the single channel and to transmit an inquiry command that communicates information regarding the sent message, the second node configured to determine, using the information in the inquiry command, whether the sent message was correctly received;

wherein the second node transmits response information to the first node, the response information indicating whether a portion of the sent message was not received by the second node; and

wherein the first node is configured to retransmit the portion of the sent message that was not received by the second node.

16. The single-channel wireless communications system of claim 15, wherein the portion of the sent message that was not received has a size, and further wherein the second node is configured to identify said size to the first node.

17. The single-channel wireless communications system of claim 16, wherein the portion of the sent message that was not received has a location within the message, and further wherein the second node is configured to communicate said location to the first node.

18. The single-channel wireless communications system of claim 15, wherein the first node is configured to re-send the sent message if a predetermined time elapses before the response message is received by the first node.

19. The single-channel wireless communications system of claim 15, wherein the first node and second node are configured to transmit over a frequency in the HF spectrum.

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